

HIGH DISCHARGE CAPACITY LITHIUM BATTERY

ABSTRACT

A lithium/iron disulfide electrochemical battery cell with a high discharge capacity. The cell has a lithium negative electrode, an iron disulfide positive electrode and
5 a nonaqueous electrolyte. The positive electrode mixture containing the iron disulfide contains highly packed solid materials, with little space around the solid particles, to provide a high concentration of iron disulfide within the mixture. The separator is thin, to allow more space within the cell for active materials, yet strong enough to prevent short
10 circuits between the positive and negative electrodes under abusive conditions, even when swelling of the cathode during cell discharge places additional stressed on the separator. As a result, the ratio of the interfacial capacity of the positive electrode to the electrode interfacial volume is high, as is the actual capacity on low rate/ low power and high rate/high power discharge.